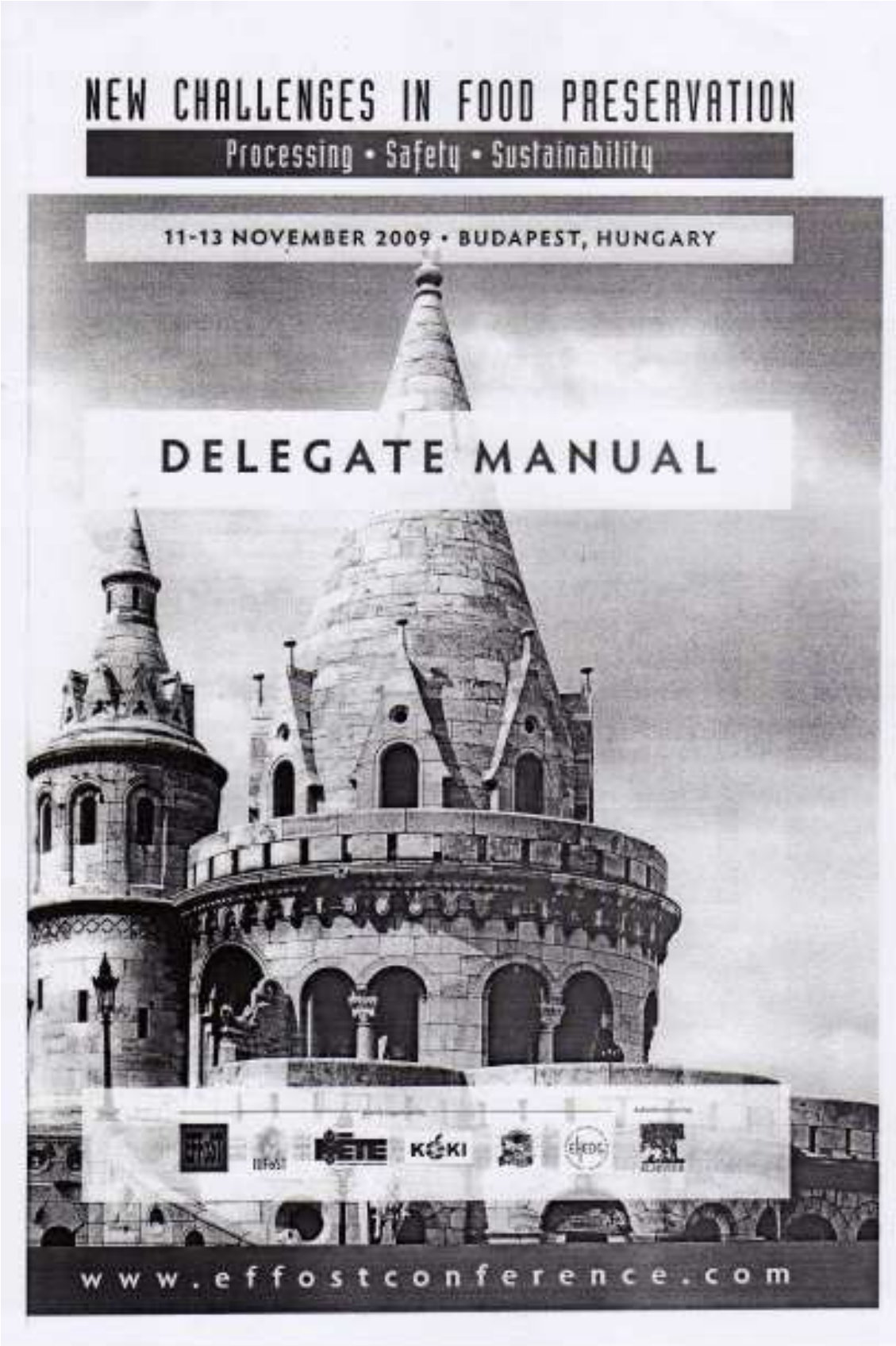

[P055] **Effect of postharvest treatment (hot water and thermosonication) on tomatoes (Lycopersicum esculentum L.) physical-chemical and nutritional quality during storage**
Joaquina Pinheiro*[1], Carla Alegria[2], Marta Abreu[2], Elsa M. Gonçalves[2], Cristina L.M. Silva[1], [1]*CBQF - Escola Superior de Biotecnologia, Universidade Católica Portuguesa, Portugal,* [2]*DTIA - Instituto Nacional de Engenharia Tecnologia e Inovação, Portugal*

[P056] **Thermal and high hydrostatic pressure stability of polygalacturonase and pectinmethylesterase from mango**
S Macías[1], F Sampedro[1], D Rodrigo*[1], [1]*Institute of Agrochemistry and Food Technology, CSIC, Spain*

[P057] **Automatic Control and Continuous Quality Measurement Systems used for Food Drying**
Barbara Sturm*[1], Werner Hofacker[1], [1]*HTWG Konstanz, University of Applied Sciences, Germany*

[P058] **Improving the Quality of Cooked and Peeled Shrimp with Lactococcus sp. EU2241: an Explanation**
P.A Fall[1,2], F Leroi[1], M Zagorec*[3], M.C Vergès[3], M Guilbaud[3], M.F Pilet[2], [1]*IFREMER, France,* [2]*ENV/ENITIAA, France,* [3]*INRA, France*

[P059] **RAPID´Salmonella : New EN ISO 16140 validated rapid method**
Frederic Martinez*[1], [1]*Bio-Rad, France*

[P060] **Hygienization of liquid whole egg by pulsed electric fields: Energetic optimization.**
S. Monfort*[1], E. Gayán[1], G. Saldaña[1], S. Condón[1], J. Raso[1], I. Alvarez[1], [1]*University of Zaragoza, Spain,* [2]*University of Zaragoza, Spain*

[P061] **Modelling Phenolic Extraction during Fermentation of Red Grapes Treated by Pulsed Electric Fields at Pilot-Plant Scale**
E Puértolas[1], G Saldaña[1], I Álvarez[1], J Raso*[1], [1]*Tecnología de los Alimentos, Facultad de Veterinaria, Universidad de Zaragoza, Spain*

[P062] **Chemical and Sensory Characterisation of Cabernet Sauvignon Red Wines Treated by Pulsed Electric Fields at Pilot-Plant Scale**
E Puértolas[1], G Saldaña[1], I Álvarez[1], J Raso*[1], [1]*Tecnología de los Alimentos, Facultad de Veterinaria, Universidad de Zaragoza, Spain*

[P063] ***Salmonella Enteritidis*** **inactivation by pulsed electric fields in liquid whole egg added with EDTA**
S. Monfort*[1], E. Gayán[1], L. Perezábad[1], S. Condón[1], J. Raso[1], I. Álvarez[1], [1]*University of Zaragoza, Spain*

[P064] **Preservation of Fresh-cut Tomatoes Treated with Whey Permeate**
Lubna Ahmed*[1], Catherine Barry-Ryan[1], Ana Belen Martin-Diana[1], Daniel Rico[1], [1]*School of Food Science and Environmental Health. Postharvest Technology Unit. Dublin Institute of Technology (DIT), Ireland*

[P065] **Technology Development of Functional Fermented Milk Beverages**
S Milanovic[1], M Ilicic[1], E Loncar[1], K Durakovic[1], V Vukic*[1], [1]*University of Novi Sad, Faculty of Technology, Serbia*

[P066] **Combined effect of high hydrostatic pressure, temperature and olive powder on the inactivation of *Bacillus cereus* spores in a low acidity vegetable beverage**
C Ferrer*[1], A Marco[1], D Rodrigo[1], A Martínez[1], [1]*Instituto de Agroquímica y Tecnología de Alimentos, CSIC, Spain*

[P067] **Physiochemical and antifungal properties of SPI based films containing tea tree oil**
L Sánchez-González*[1], C González-Martínez[1], M Cháfer[1], A Chiralt[1], [1]*Universidad Politécnica de Valencia, Spain*

[P068] **Thermal inactivation of a sweet protein thaumatin and its prevention by phosvitin**
Naotoshi Matsudomi*[1], Nami Sugimoto[1], Kazuomi Tatemura[1], [1]*Yamaguchi University, Japan*

Title:

Effect of postharvest treatment (hot water and thermosonication) on tomatoes (*Lycopersicum esculentum* L.) physical-chemical and nutritional quality during storage

Authors & affiliations:
J. Pinheiro1, C. Alegria2, M. Abreu2, E.M. Gonçalves2, C.L.M. Silva1*

1CBQF – Escola Superior de Biotecnologia, Universidade Católica Portuguesa, Rua Dr. António Bernardino de Almeida, 4200-072 Porto, Portugal
2DTIA – Instituto Nacional de Engenharia, Tecnologia e Inovação, Estrada Paço do Lumiar n.º 22, 1649-038 Lisboa, Portugal

**E-mail: joaquina.pinheiro@mail2.ineti.pt*

Abstract:(Your abstract must use **Normal style** and must fit in this box. Your abstract should be no longer than 300 words. The box will 'expand' over 2 pages as you add text/diagrams into it.)

Postharvest heat treatment (HT) applied to whole fruits has been used mainly to eliminate superficial microorganisms and to ensure their quality during storage. The fruit exposure temperature and time must be precisely tested in order to prevent damage. Heat can be combined with other technologies, e.g. ultrasounds, in order to reduce its intensity and consequently negative effect. Thermosonication (TUS) has some advantages compared with HT, such as fruits quality improvement in terms of taste, texture and appearance. The aim of this work was to evaluate the effect of hot water (HW, 50ºC at 2min) and TUS (50ºC at 2min, *80%* power level and 45kHz) treatments, and compare it with untreated tomatoes (Control), on physical-chemical and nutritional properties, such as colour CIE Lab (a* and *hue (ºh)*), texture (maximum force, N), total phenolics content (TPC, mGAE.100g-1) and antioxidant activity (AO, µmol.TEAC.100g-1) of whole tomatoes stored at 10ºC and 85% RH during 21 days. Immediately after HW and TUS treatments, no significant ($p>0.05$) differences were denoted in all attributes, for all samples. Storage time significantly ($p<0.05$) affects tomatoes physical-chemical properties and nutritional contents. In the first 6 days of storage, a delay in red colour development in both treated tomatoes, were observed, compared with Control samples. However, after the 21th day, an increase on a* values on HW tomatoes were obtained, indicating a faster maturation. After treatment, the firmness reduces 11% and 3% for HW and TUS samples, respectively. During storage, increases up to 46% and 170% in TPC and AO, were observed in HW and TUS samples, respectively. Physical-chemical and nutritional changes during tomato ripening process are inevitable. However, the delay of these alterations can be achieved through postharvest treatment, such as HW and TUS. Although promising results have been obtained, further studies are
required.

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